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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,487	12/03/2001	Horst Mueller	1454.1118	5604

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EXAMINER	
DUONG, DUC T	

ART UNIT	PAPER NUMBER
2663	8

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,487	MUELLER, HORST	
	Examiner	Art Unit	
	Duc T. Duong	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *22-25* is/are allowed.

6)☒ Claim(s) *14-21 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14, 18, and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new matter is reference to the limitation "without frame detection" on lines 3-4 of the claims. Furthermore, the new limitation added to the claims is a negative limitation. Any negative limitation or exclusionary proviso must have a basis in the original disclosure. See *Ex Parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), aff'd mem., 738 F.2d 453 (Fed. Cir. 1984).

3. The applicant is reminded any amendment filed in subsequent amending the specification to incorporate the new matter will be objected under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which will not be supported by the original disclosure is as follows: "without frame detection".

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 14-16, 18, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Rusell et al (U.S. Patent 6,584,118 B1).

Regarding to claim 14, Rusell discloses a system for inserting an Ethernet signal and other types of signals in an STM-N frame of synchronous digital hierarchy, comprising a decoder 401 to receive an Ethernet signal and to perform data rate reduction of the Ethernet signal in generating a decoded output (Fig. 4 col. 7 lines 31-33); a first multiplexer (implicitly shown), coupled to said decoder, to form data words from the decoded output and associated monitoring information (col. 8 lines 10-20); a unit 400, coupled to said first multiplexer, to form a first signal sequence with a predetermined bit length from the data words formed by said first multiplexer (Fig. 4 col. 8 lines 21-26); and a second multiplexer (implicitly shown), coupled to said unit, to

combine at least one first signal sequence and control and administration data for the STM-N frame (col. 9 lines 36-54).

Regarding to claim 15, Russell discloses the first multiplexer forms data words with a data word length of 9 bits (Fig. 11 and 12, col. 11 lines 54-67 and col. 12 lines 1-20).

Regarding to claim 16, Russell discloses the unit forms a virtual container VC-4 signal (col. 6 lines 28-58).

Regarding to claim 18, Russell discloses a system for transmitting Ethernet signals, comprising a decoder 401 to receive an Ethernet signal and to perform data rate reduction of the Ethernet signal in generating a decoded (Fig. 4 col. 7 lines 31-33); a first multiplexer (implicitly shown), coupled to said decoder, to form data words from the decoded output and associated monitoring information (col. 8 lines 10-20); a unit 400, coupled to said first multiplexer, to form a first signal sequence with a predetermined bit length from the data words formed by said first multiplexer (Fig. 4 col. 8 lines 21-26); a second multiplexer (implicitly shown), coupled to said unit, to combine at least one first signal sequence and control and administration data for an STM-N frame (col. 9 lines 36-54); a synchronous digital hierarchy transmission system 200, coupled to said second multiplexer, to transmit data in the STM-N frame (Fig. 2 col. 5 lines 23-45); a first demultiplexer (implicitly shown), coupled to the synchronous digital hierarchy transmission system to form the at least one first signal sequence from the STM-N frame (Fig. 8 col. 8 lines 39-45); a demapper 400, coupled to said first demultiplexer, to form a reduced data rate Ethernet signal (Fig. 4 col. 7 lines 31-35); a

second demultiplexer (implicitly shown), coupled to said demapper, to reform the data words and the associated monitoring information (Fig. 8 col. 8 lines 45-52); and an encoder (implicitly shown), coupled to said second demultiplexer, to form a recovered Ethernet signal (col. 8 lines 52-54).

Regarding to claim 20, Russell discloses a method for inserting Ethernet signals into an STM-N frame of synchronous digital hierarchy, comprising reducing a data rate of the Ethernet signal (Fig. 4 col. 7 lines 31-33); combining data and associated monitoring information of the Ethernet signal after data rate reduction, into data words to produce a first signal sequence with a specific bit length (Fig. 4 col. 8 lines 10-26); and forming an STM-N signal from at least one first signal sequence and control and administration data associated with an STM-N frame (col. 9 lines 36-54).

Regarding to claim 21, Russell discloses the STM-N frame has a 9 bits structure, with 9 bits of user data placed synchronously in the STM-N frame (Fig. 11 and 12, col. 11 lines 54-67 and col. 12 lines 1-20).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 14-16, 18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saijonmaa et al (U.S. Patent 5,706,285) in view of Rusell et al (U.S. Patent 6,584,118 B1).

Regarding to claims 14 and 15, Saijonmaa discloses a system for inserting an ATM signal and other types of signals in an STM-N frame of synchronous digital hierarchy (col. 4 lines 53-56), comprising a decoder 2 to receive an ATM signal and to perform data rate reduction of the ATM signal in generating a decoded output (Fig. 2 col. 3 lines 30-36); a first multiplexer 3 (Fig. 2 col. 3 lines 44-48), coupled to said decoder, to form data words from the decoded output and associated monitoring information (col. 4 lines 39-44); a unit 31, coupled to said first multiplexer, to form a first signal sequence with a predetermined bit length from the data words formed by said first multiplexer (Fig. 2 col. 5 lines 10-33); and a second multiplexer 51, coupled to said unit, to combine at least one first signal sequence and control and administration data for the STM-N frame (Fig. 5 col. 6 lines 36-47).

Saijonmaa fails to teach for the inserting signal is an Ethernet signal and the first multiplexer forms data words with a data word length of 9 bits (claim 15).

However, Russell discloses a system for mapping Ethernet data frames into SDH virtual containers (Fig. 4 col. 7 lines 18-57) and a multiplexer forms data words with a data word length of 9 bits (Fig. 11 and 12, col. 11 lines 54-67 and col. 12 lines 1-20).

Thus, it would have been obvious to one of ordinary skilled in the art, at the time of the invention, to include the inserting of Ethernet data in an STM-N frame as taught by Russell to achieve minimum packet delay and protocol header overhead.

Regarding to claim 16, Saijonmaa discloses the unit forms a virtual container VC-4 signal (col. 6 lines 44-47).

Regarding to claim 18, Saijonmaa discloses a system for transmitting ATM signals, comprising a decoder 2 to receive an ATM signal and to perform data rate reduction of the ATM signal in generating a decoded output (Fig. 2 col. 3 lines 30-36); a first multiplexer 3 (Fig. 2 col. 3 lines 44-48), coupled to said decoder, to form data words from the decoded output and associated monitoring information (col. 4 lines 39-44); a unit 31, coupled to said first multiplexer, to form a first signal sequence with a predetermined bit length from the data words formed by said first multiplexer (Fig. 2 col. 5 lines 10-33); a second multiplexer 51, coupled to said unit, to combine at least one first signal sequence and control and administration data for an STM-N frame (Fig. 5 col. 6 lines 36-47); a synchronous digital hierarchy transmission system 5, coupled to said second multiplexer, to transmit data in the STM-N frame (Fig. 1 col. 3 lines 23-28); a first demultiplexer 51, coupled to the synchronous digital hierarchy transmission system to form the at least one first signal sequence from the STM-N frame (Fig. 5 col. 6 lines 36-47); a demapper 31, coupled to said first demultiplexer, to form a reduced data rate ATM signal (Fig. 2 col. 5 lines 10-33); a second demultiplexer 3, coupled to said demapper, to reform the data words and the associated monitoring information (Fig. 2 col. 3 lines 44-48 and col. 4 lines 39-44); and an encoder (implicitly shown), coupled to said second demultiplexer, to form a recovered ATM signal (col. 6 lines 55-65).

Saijonmaa fails to teach for the inserting signal is an Ethernet signal.

However, Russell discloses a system for mapping Ethernet data frames into SDH virtual containers (Fig. 4 col. 7 lines 18-57).

Thus, it would have been obvious to one of ordinary skilled in the art, at the time of the invention, to include the inserting of Ethernet data in an STM-N frame as taught by Russell to achieve minimum packet delay and protocol header overhead.

Regarding to claims 20 and 21, Saijonmaa discloses a method for inserting ATM signals into an STM-N frame of synchronous digital hierarchy, comprising reducing a data rate of the ATM signal (Fig. 2 col. 3 lines 30-36); combining data and associated monitoring information (management information) of the ATM signal after data rate reduction (Fig. 2 col. 3 lines 44-48 and col. 4 lines 39-44), into data words to produce a first signal sequence with a specific bit length (Fig. 3 and 4 col. 5 lines 10-33); and forming an STM-N signal from at least one first signal sequence and control and administration data associated with an STM-N frame (Fig. 5 col. 6 lines 36-47).

Saijonmaa fails to teach for the inserting signal is an Ethernet signal and the STM-N frame has a 9 bits structure, with 9 bits of user data placed synchronously in the STM-N frame (claim 21).

However, Russell discloses a system for mapping Ethernet data frames into SDH virtual containers (Fig. 4 col. 7 lines 18-57) and a STM-N frame has a 9 bits structure, with 9 bits of user data placed synchronously in the STM-N frame s (Fig. 11 and 12, col. 11 lines 54-67 and col. 12 lines 1-20).

Thus, it would have been obvious to one of ordinary skilled in the art, at the time of the invention, to include the inserting of Ethernet data in an STM-N frame as taught by Russell to achieve minimum packet delay and protocol header overhead.

8. Claims 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of Cloonan et al (U.S. Patent 5,606,317).

Regarding to claim 17, Russell discloses a system for recovering a 9-bit stuffing Ethernet signals (col. 11 lines 53-67) inserted into STM-N frames of synchronous digital hierarchy, comprising a first demultiplexer (implicitly shown) to form at least one first signal sequence (Fig. 8 col. 8 lines 39-45); a demapper 400, coupled to said first demultiplexer, to form an Ethernet signal having a reduced data rate (Fig. 4 col. 7 lines 31-35); a second demultiplexer (implicitly shown), coupled to said demapper, to form data words and associated monitoring information (Fig. 8 col. 8 lines 45-52); and an encoder (implicitly shown), coupled to said second demultiplexer, to form an Ethernet signal (col. 8 lines 52-54).

Russell fails to explicitly teach the 9-bit Ethernet signals are encoded 8B/9B signals.

However, Cloonan discloses an apparatus for encoding and decoding 8B/9B signals (Fig. 3 col. 8 lines 19-29).

Thus, it would have been obvious to one of skilled in the art to include the 8B/9B encoder and decoder as taught by Cloonan in Russell's system for maximizing bandwidth efficiency.

Regarding to claim 26, Russell discloses a method for recovering a 9-bit stuffing Ethernet signals (col. 11 lines 53-67) inserted into STM-N frames of synchronous digital hierarchy, comprising extracting a first signal sequence from a STM-N signal (Fig. 8 col. 8 lines 39-45); forming a reduced data rate Ethernet signal from the first signal

sequence (Fig. 4 col. 7 lines 31-35); forming data words and associated control information from the reduced data rate Ethernet signal (Fig. 8 col. 8 lines 45-52); and forming an Ethernet signal from the data words and the associated monitoring information (col. 8 lines 52-54).

Russell fails to explicitly teach the 9-bit Ethernet signals are encoded 8B/9B signals.

However, Cloonan discloses an apparatus for encoding and decoding 8B/9B signals (Fig. 3 col. 8 lines 19-29).

Thus, it would have been obvious to one of skilled in the art to include the 8B/9B encoder and decoder as taught by Cloonan in Russell's system for maximizing bandwidth efficiency.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of Cheng et al (U.S. Patent 6,151,336).

Regarding to claim 19, Russell discloses all the limitation with respect to claim 18, except for a scrambler coupled between said first multiplexer and said mapper and a descrambler coupled between said first demultiplexer and said second demultiplexer. However, Cheng discloses a time division multiplexing data transmission system comprising a scrambler 222-226 coupled to said first multiplexer 230 and said encoder and 212-216 a descrambler 622-626 coupled to said first demultiplexer 610 and said second demultiplexer 500 (Fig. 2 and 3, col. 6 lines 8-18 and col. 7 lines 34-51). Thus, it would have been obvious to one skilled in the art to include the scrambler and descrambler as taught by Cheng in Russell's system to convert encoded signal into a

format that can be directly modulated, transmitted, and demodulated without signal booster or amplification.

Allowable Subject Matter

10. Claims 22-25 are allowed.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

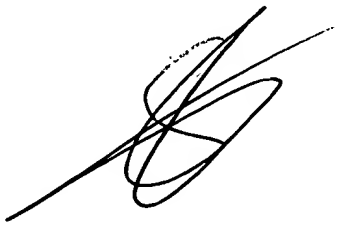
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 703-605-5146. The examiner can normally be reached on M-Th (8:30 AM-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

DD



STEVEN H.D NGUYEN
PRIMARY EXAMINER